SUMMARY DATA FOR CASE 1C

This section contains the following economic data for case 1C:

- Capital Investment and Revenue Requirement Summary
- Total Plant Cost

CAPITAL INVESTMENT & REVENUE REQUIREMENT SUMMARY

TITLE/DEFINITION				
Case:	Natural Gas Combined Cycle-2x1"FA"			
Plant Size:	509.4 (MW,net)	HeatRate:	6,811	(Btu/kWh)
Primary/Secondary Fuel(type):	Natural Gas	Cost:	2.70	($/MMBtu)
Design/Construction:	2.5 (years)	BookLife:	20	(years)
TPC(Plant Cost) Year:	1999 (Dec.)	TPI Year:	2000	(Jan.)
Capacity Factor:	65 (%)	CO_2 Removed:		(tons/year)

CAPITAL INVESTMENT		**$x1000**	**$/kW**
Process Capital & Facilities		212,780	417.7
Engineering(incl.C.M.,H.O.& Fee)		12,767	25.1
Process Contingency			
Project Contingency		31,881	62.6
TOTAL PLANT COST(TPC)		$257,427	505.4
TOTAL CASH EXPENDED	$257,427		
AFDC	$13,720		
TOTAL PLANT INVESTMENT(TPI)		$271,147	532.3
Royalty Allowance			
Preproduction Costs		7,756	15.2
Inventory Capital		709	1.4
Initial Catalyst & Chemicals(w/equip.)			
Land Cost		164	0.3
TOTAL CAPITAL REQUIREMENT(TCR)		$279,777	549.2

OPERATING & MAINTENANCE COSTS (2000 Dollars)	**$x1000**	**$/kW-yr**
Operating Labor	1,720	3.4
Maintenance Labor	1,666	3.3
Maintenance Material	2,498	4.9
Administrative & Support Labor	846	1.7
TOTAL OPERATION & MAINTENANCE	$6,730	13.2
FIXED O & M	8.31	$/kW-yr
VARIABLE O & M	0.09	¢/kWh

CONSUMABLE OPERATING COSTS,less Fuel (2000 Dollars)	**$x1000**	**¢/kWh**
Water	230	0.01
Chemicals	260	0.01
Other Consumables		
Waste Disposal		
TOTAL CONSUMABLE OPERATING COSTS	$490	0.02

BY-PRODUCT CREDITS (2000 Dollars)

FUEL COST (2000 Dollars)	$53,340	1.84

		Levelized (Over Book Life $)	
PRODUCTION COST SUMMARY	**$/ton CO_2**		**¢/kWh**
Fixed O & M		8.3/kW-yr	0.15
Variable O & M			0.09
Consumables			0.02
By-product Credit			
Fuel			1.84
TOTAL PRODUCTION COST			2.09
LEVELIZED CARRYING CHARGES(Capital)		75.8/kW-yr	1.33
LEVELIZED (Over Book Life) BUSBAR COST OF POWER			3.42

ESTIMATE BASIS/FINANCIAL CRITERIA for REVENUE REQUIREMENT CALCULATIONS

GENERAL DATA/CHARACTERISTICS

Case Title:	Natural Gas Combined Cycle-2x1"FA"			
Unit Size:/Plant Size:	509.4	MW,net	509.4	MWe
Location:	East-West Region			
Fuel: Primary/Secondary	Natural Gas			
Energy From Primary/Secondary Fuels	6,811	Btu/kWh		Btu/kWh
Levelized Capacity Factor / Preproduction(equivalent months):	65	%	1	months
Capital Cost Year Dollars (Reference Year Dollars):	1999	(December)		
Delivered Cost of Primary/Secondary Fuel	2.70	$/MBtu		$/MBtu
Design/Construction Period:	2.5	years		
Plant Startup Date (1st. Year Dollars):	2000	(January)		
Land Area/Unit Cost	100	acre	$1,644	/acre

FINANCIAL CRITERIA

Project Book Life:	20	years		
Book Salvage Value:		%		
Project Tax Life:	20	years		
Tax Depreciation Method:	Accel. based on ACRS Class			
Property Tax Rate:	1.0	% per year		
Insurance Tax Rate:	1.0	% per year		
Federal Income Tax Rate:	34.0	%		
State Income Tax Rate:		%		
Investment Tax Credit/% Eligible		%		%
Economic Basis:	Over Book Life	Constant Dollars		

Capital Structure	% of Total	Cost(%)
Common Equity	45	12.00
Preferred Stock	10	8.50
Debt	45	9.00
Weighted Cost of Capital:(after tax)		8.76 %

Escalation Rates	Over Book Life	1999 to 2000
General	% per year	% per year
Primary Fuel	% per year	% per year
Secondary Fuel	% per year	% per year

Client: EPRI/DOE VISION 21
Project: INNOVATIVE POWER CYCLES
Report Date: 12-Jul-2000 11:11 AM

TOTAL PLANT COST SUMMARY

Case: Natural Gas Combined Cycle-2x1"FA"
Plant Size: 509.4 MW,net Estimate Type: Conceptual Cost Base (Dec) 1999 ($x1000)

Acct No.	Item/Description	Equipment Cost	Material Cost	Labor Direct	Labor Indirect	Sales Tax	Bare Erected Cost $	Eng'g CM H.O.& Fee	Contingencies Process	Contingencies Project	TOTAL PLANT COST $	TOTAL PLANT COST $/kW
1	COAL & SORBENT HANDLING											
2	COAL & SORBENT PREP & FEED											
3	FEEDWATER & MISC. BOP SYSTEMS	3,921	3,504	5,220	365		**$13,011**	781		3,175	**$16,967**	33
4	GASIFIER & ACCESSORIES											
4.1	Gasifier & Auxiliaries											
4.2	High Temperature Cooling											
4.3	Recycle Gas System											
4.4-4.9	Other Gasification Equipment											
	SUBTOTAL 4											
5A	GAS CLEANUP & PIPING											
5B	CO_2 REMOVAL & COMPRESSION											
6	COMBUSTION TURBINE/ACCESSORIES											
6.1	Combustion Turbine Generator	67,985		4,264	298		**$72,547**	4,353		7,690	**$84,590**	166
6.2-6.9	Combustion Turbine Accessories		488	806	56		**$1,350**	81		429	**$1,861**	4
	SUBTOTAL 6	*67,985*	*488*	*5,070*	*355*		*$73,897*	*4,434*		*8,119*	*$86,451*	*170*
7	HRSG, DUCTING & STACK											
7.1	Heat Recovery Steam Generator	23,164		9,515	666		**$33,345**	2,001		3,535	**$38,880**	76
7.2-7.9	HRSG Accessories, Ductwork and Stack		388	556	39		**$983**	59		313	**$1,355**	3
	SUBTOTAL 7	*23,164*	*388*	*10,071*	*705*		*$34,328*	*2,060*		*3,847*	*$40,235*	*79*
8	STEAM TURBINE GENERATOR											
8.1	Steam TG & Accessories	20,089		3,961	277		**$24,327**	1,460		2,579	**$28,365**	56
8.2-8.9	Turbine Plant Auxiliaries and Steam Piping	5,505	506	6,079	426		**$12,515**	751		2,357	**$15,623**	31
	SUBTOTAL 8	*25,594*	*506*	*10,040*	*703*		*$36,842*	*2,211*		*4,936*	*$43,988*	*86*
9	COOLING WATER SYSTEM	4,750	3,833	6,403	448		**$15,433**	926		3,248	**$19,607**	38
10	ASH/SPENT SORBENT HANDLING SYS											
11	ACCESSORY ELECTRIC PLANT	6,389	2,416	9,206	644		**$18,656**	1,119		3,349	**$23,124**	45
12	INSTRUMENTATION & CONTROL	2,190	275	2,679	188		**$5,332**	320		769	**$6,421**	13
13	IMPROVEMENTS TO SITE	1,306	710	4,947	346		**$7,309**	439		2,324	**$10,072**	20
14	BUILDINGS & STRUCTURES		2,835	4,801	336		**$7,972**	478		2,113	**$10,563**	21
	TOTAL COST	**$135,299**	**$14,954**	**$58,437**	**$4,091**		**$212,780**	**$12,767**		**$31,881**	**$257,427**	**505**

Client: EPRI/DOE VISION 21
Project: INNOVATIVE POWER CYCLES
Report Date: 12-Jul-2000 11:11 AM

TOTAL PLANT COST SUMMARY

Case: Natural Gas Combined Cycle-2x1"FA"
Plant Size: 509.4 MW,net **Estimate Type:** Conceptual **Cost Base (Dec)** 1999 ($x1000)

Acct No.	Item/Description	Equipment Cost	Material Cost	Labor Direct	Labor Indirect	Sales Tax	Bare Erected Cost $	Eng'g CM H.O.& Fee	Contingencies Process	Contingencies Project	TOTAL PLANT COST $	TOTAL PLANT COST $/kW
1	COAL & SORBENT HANDLING											
1.1	Coal Receive & Unload											
1.2	Coal Stackout & Reclaim											
1.3	Coal Conveyors & Yd Crush											
1.4	Other Coal Handling											
1.5	Sorbent Receive & Unload											
1.6	Sorbent Stackout,Storage & Reclaim											
1.7	Sorbent Conveyors											
1.8	Other Sorbent Handling											
1.9	Coal & Sorbent Hnd.Foundations											
	SUBTOTAL 1.											
2	COAL & SORBENT PREP & FEED											
2.1	Coal Crushing & Drying											
2.2	Prepared Coal Storage & Feed											
2.3	Coal & Sorbent Feed System											
2.4	Misc.Coal Prep & Feed											
2.5	Sorbent Prep Equipment											
2.6	Sorbent Storage & Feed											
2.7	Sorbent Injection System											
2.8	Booster Air Supply System											
2.9	Coal & Sorbent Feed Foundation											
	SUBTOTAL 2.											
3	FEEDWATER & MISC. BOP SYSTEMS											
3.1	FeedwaterSystem	1,190	2,315	1,811	127		$5,443	327		1,154	$6,923	14
3.2	Water Makeup & Pretreating	204	22	171	12		$409	25		130	$563	1
3.3	Other Feedwater Subsystems	667	249	332	23		$1,272	76		270	$1,618	3
3.4	Service Water Systems	114	244	1,253	88		$1,699	102		540	$2,341	5
3.5	Other Boiler Plant Systems	610	246	452	32		$1,339	80		284	$1,704	3
3.6	FO Supply Sys & Nat Gas	180	341	471	33		$1,024	61		217	$1,303	3
3.7	Waste Treatment Equipment	307		261	18		$587	35		187	$808	2
3.8	Misc. Power Plant Equipment	649	88	470	33		$1,239	74		394	$1,707	3
	SUBTOTAL 3.	**$3,921**	**$3,504**	**$5,220**	**$365**		**$13,011**	**$781**		**$3,175**	**$16,967**	**33**
4	GASIFIER & ACCESSORIES											
4.1	Gasifier & Auxiliaries											
4.2	High Temperature Cooling											
4.3	Recycle Gas System											
4.4	Booster Air Compression											
4.5	Misc. Gasification Equipment	w/4.1&4.2		w/4.1&4.2								
4.6	Other Gasification Equipment											
4.8	Major Component Rigging	w/4.1&4.2		w/4.1&4.2								
4.9	Gasification Foundations											
	SUBTOTAL 4.											

Client:	EPRI/DOE VISION 21								**Report Date:**	12-Jul-2000			
Project:	INNOVATIVE POWER CYCLES									11:11 AM			
	TOTAL PLANT COST SUMMARY												
Case:	Natural Gas Combined Cycle-2x1"FA"												
Plant Size:	509.4 MW,net			**Estimate Type:**	Conceptual				**Cost Base (Dec)**	1999	($x1000)		
Acct No.	**Item/Description**	**Equipment Cost**	**Material Cost**	**Labor**		**Sales Tax**	**Bare Erected Cost $**	**Eng'g CM H.O.& Fee**	**Contingencies**		**TOTAL PLANT COST**		
				Direct	**Indirect**				**Process**	**Project**	**$**	**$/kW**	
5A	GAS CLEANUP & PIPING												
5A.1	Gas Desulfurization(Trans.Reactor)												
5A.2	Sulfur Recovery (Sulfator Sys.)												
5A.3	Chloride Guard												
5A.4	Particulate Removal												
5A.5	Blowback Gas Systems												
5A.6	Fuel Gas Piping												
5A.9	HGCU Foundations												
	SUBTOTAL 5A.												
5B	CO_2 REMOVAL & COMPRESSION												
5B.1	CO_2 Removal System												
5B.2	CO_2 Compression & Drying												
	SUBTOTAL 5B.												
6	COMBUSTION TURBINE/ACCESSORIES												
6.1	Combustion Turbine Generator	67,985		4,264	298		$72,547	4,353		7,690	$84,590	166	
6.2	Combustion Turbine Accessories	w/6.1		w/6.1									
6.3	Compressed Air Piping												
6.9	Combustion Turbine Foundations		488	806	56		$1,350	81		429	$1,861	4	
	SUBTOTAL 6.	**$67,985**	**$488**	**$5,070**	**$355**		**$73,897**	**$4,434**		**$8,119**	**$86,451**	**170**	
7	HRSG, DUCTING & STACK												
7.1	Heat Recovery Steam Generator	23,164		9,515	666		$33,345	2,001		3,535	$38,880	76	
7.2	HRSG Accessories												
7.3	Ductwork												
7.4	Stack												
7.9	HRSG,Duct & Stack Foundations		388	556	39		$983	59		313	$1,355	3	
	SUBTOTAL 7.	**$23,164**	**$388**	**$10,071**	**$705**		**$34,328**	**$2,060**		**$3,847**	**$40,235**	**79**	
8	STEAM TURBINE GENERATOR												
8.1	Steam TG & Accessories	20,089		3,961	277		$24,327	1,460		2,579	$28,365	56	
8.2	Turbine Plant Auxiliaries	111		376	26		$513	31		54	$598	1	
8.3	Condenser & Auxiliaries	2,968		1,204	84		$4,256	255		451	$4,963	10	
8.4	Steam Piping	2,427		3,125	219		$5,770	346		1,223	$7,340	14	
8.9	TG Foundations		506	1,374	96		$1,976	119		628	$2,723	5	
	SUBTOTAL 8.	**$25,594**	**$506**	**$10,040**	**$703**		**$36,842**	**$2,211**		**$4,936**	**$43,988**	**86**	
9	COOLING WATER SYSTEM												
9.1	Cooling Towers	2,230		726	51		$3,007	180		319	$3,506	7	
9.2	Circulating Water Pumps	563		79	6		$648	39		69	$755	1	
9.3	Circ.Water System Auxiliaries	176		37	3		$216	13		23	$252	0	
9.4	Circ.Water Piping		2,604	1,073	75		$3,752	225		796	$4,773	9	
9.5	Make-up Water System	1,574		1,727	121		$3,422	205		725	$4,352	9	
9.6	Component Cooling Water Sys	206	247	268	19		$740	44		157	$941	2	
9.9	Circ.Water System Foundations		982	2,492	174		$3,648	219		1,160	$5,027	10	
	SUBTOTAL 9.	**$4,750**	**$3,833**	**$6,403**	**$448**		**$15,433**	**$926**		**$3,248**	**$19,607**	**38**	

Client: EPRI/DOE VISION 21
Project: INNOVATIVE POWER CYCLES
Report Date: 12-Jul-2000 11:11 AM

TOTAL PLANT COST SUMMARY

Case: Natural Gas Combined Cycle-2x1"FA"
Plant Size: 509.4 MW,net
Estimate Type: Conceptual
Cost Base (Dec) 1999 ($x1000)

Acct No.	Item/Description	Equipment Cost	Material Cost	Labor Direct	Labor Indirect	Sales Tax	Bare Erected Cost $	Eng'g CM H.O.& Fee	Contingencies Process	Contingencies Project	TOTAL PLANT COST $	TOTAL PLANT COST $/kW
10	ASH/SPENT SORBENT HANDLING SYS											
10.1	Gasifier Ash Removal											
10.2	Gasifier Ash Depressurization											
10.3	Cleanup Ash Depressurization											
10.4	High Temperature Ash Piping											
10.5	Other Ash Recovery Equipment											
10.6	Ash Storage Silos											
10.7	Ash Transport & Feed Equipment											
10.8	Misc. Ash Handling Equipment											
10.9	Ash/Spent Sorbent Foundation											
	SUBTOTAL 10.											
11	ACCESSORY ELECTRIC PLANT											
11.1	Generator Equipment	817		1,067	75		$1,959	118		208	$2,284	4
11.2	Station Service Equipment	545		65	5		$615	37		65	$717	1
11.3	Switchgear & Motor Control	672		162	11		$845	51		134	$1,030	2
11.4	Conduit & Cable Tray		901	4,086	286		$5,272	316		1,118	$6,706	13
11.5	Wire & Cable		1,077	1,555	109		$2,740	164		581	$3,486	7
11.6	Protective Equipment		325	1,564	109		$1,998	120		318	$2,435	5
11.7	Standby Equipment	79		102	7		$187	11		30	$228	0
11.8	Main Power Transformers	4,277		158	11		$4,446	267		707	$5,419	11
11.9	Electrical Foundations		114	449	31		$594	36		189	$819	2
	SUBTOTAL 11.	**$6,389**	**$2,416**	**$9,206**	**$644**		**$18,656**	**$1,119**		**$3,349**	**$23,124**	**45**
12	INSTRUMENTATION & CONTROL											
12.1	IGCC Control Equipment											
12.2	Combustion Turbine Control											
12.3	Steam Turbine Control											
12.4	Other Major Component Control											
12.5	Signal Processing Equipment	w/12.7		w/12.7								
12.6	Control Boards,Panels & Racks	169		144	10		$323	19		68	$411	1
12.7	Computer & Accessories											
12.8	Instrument Wiring & Tubing		275	1,237	87		$1,599	96		339	$2,035	4
12.9	Other I & C Equipment	2,021		1,298	91		$3,409	205		361	$3,975	8
	SUBTOTAL 12.	**$2,190**	**$275**	**$2,679**	**$188**		**$5,332**	**$320**		**$769**	**$6,421**	**13**
13	IMPROVEMENTS TO SITE											
13.1	Site Preparation		70	1,983	139		$2,192	132		697	$3,020	6
13.2	Site Improvements		640	1,131	79		$1,850	111		588	$2,549	5
13.3	Site Facilities	1,306		1,833	128		$3,268	196		1,039	$4,503	9
	SUBTOTAL 13.	**$1,306**	**$710**	**$4,947**	**$346**		**$7,309**	**$439**		**$2,324**	**$10,072**	**20**
14	BUILDINGS & STRUCTURES											
14.1	Combustion Turbine Area		150	136	9		$295	18		78	$391	1
14.2	Steam Turbine Building		1,303	2,959	207		$4,468	268		1,184	$5,921	12
14.3	Administration Building		291	337	24		$652	39		173	$863	2
14.4	Circulation Water Pumphouse		97	82	6		$185	11		49	$245	0
14.5	Water Treatment Buildings		246	383	27		$656	39		174	$869	2
14.6	Machine Shop		253	276	19		$548	33		145	$726	1
14.7	Warehouse		408	420	29		$857	51		227	$1,136	2
14.8	Other Buildings & Structures		49	61	4		$114	7		30	$151	0
14.9	Waste Treating Building & Str.		38	149	10		$197	12		52	$261	1
	SUBTOTAL 14.		**$2,835**	**$4,801**	**$336**		**$7,972**	**$478**		**$2,113**	**$10,563**	**21**
	TOTAL COST	**$135,299**	**$14,954**	**$58,437**	**$4,091**		**$212,780**	**$12,767**		**$31,881**	**$257,427**	**505**